

## § 236.1045

(7) Require periodic refresher training and evaluation at intervals specified in the PTCDP and PTCSP that includes classroom, simulator, computer-based, hands-on, or other formally structured training and testing, except with respect to basic skills for which proficiency is known to remain high as a result of frequent repetition of the task; and

(8) Conduct regular and periodic evaluations of the effectiveness of the training program specified in § 236.1041(a)(1) verifying the adequacy of the training material and its validity with respect to current railroads PTC systems and operations.

(b) *Training records.* Employers shall retain records which designate persons who are qualified under this section until new designations are recorded or for at least one year after such persons leave applicable service. These records shall be kept in a designated location and be available for inspection and replication by FRA and FRA-certified State inspectors

## § 236.1045 Training specific to office control personnel.

(a) Any person responsible for issuing or communicating mandatory directives in territory where PTC systems are or will be in use shall be trained in the following areas, as applicable:

(1) Instructions concerning the interface between the computer-aided dispatching system and the train control system, with respect to the safe movement of trains and other on-track equipment;

(2) Railroad operating rules applicable to the train control system, including provision for movement and protection of roadway workers, unequipped trains, trains with failed or cut-out train control onboard systems, and other on-track equipment; and

(3) Instructions concerning control of trains and other on-track equipment in case the train control system fails, including periodic practical exercises or simulations, and operational testing under part 217 of this chapter to ensure the continued capability of the personnel to provide for safe operations under the alternative method of operation.

(b) [Reserved]

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## § 236.1047 Training specific to locomotive engineers and other operating personnel.

(a) *Operating personnel.* Training provided under this subpart for any locomotive engineer or other person who participates in the operation of a train in train control territory shall be defined in the PTCDP as well as the PTCSP. The following elements shall be addressed:

(1) Familiarization with train control equipment onboard the locomotive and the functioning of that equipment as part of the system and in relation to other onboard systems under that person's control;

(2) Any actions required of the onboard personnel to enable, or enter data to, the system, such as consist data, and the role of that function in the safe operation of the train;

(3) Sequencing of interventions by the system, including pre-enforcement notification, enforcement notification, penalty application initiation and post-penalty application procedures;

(4) Railroad operating rules and testing (part 217) applicable to the train control system, including provisions for movement and protection of any unequipped trains, or trains with failed or cut-out train control onboard systems and other on-track equipment;

(5) Means to detect deviations from proper functioning of onboard train control equipment and instructions regarding the actions to be taken with respect to control of the train and notification of designated railroad personnel; and

(6) Information needed to prevent unintentional interference with the proper functioning of onboard train control equipment.

(b) *Locomotive engineer training.* Training required under this subpart for a locomotive engineer, together with required records, shall be integrated into the program of training required by part 240 of this chapter.

(c) *Full automatic operation.* The following special requirements apply in the event a train control system is used to effect full automatic operation of the train:

(1) The PTCDP and PTCSP shall identify all safety hazards to be mitigated by the locomotive engineer.

(2) The PTCDP and PTCSP shall address and describe the training required with provisions for the maintenance of skills proficiency. As a minimum, the training program must:

(i) As described in § 236.1043(a)(2), develop failure scenarios which incorporate the safety hazards identified in the PTCDP and PTCSP including the return of train operations to a fully manual mode;

(ii) Provide training, consistent with § 236.1047(a), for safe train operations under all failure scenarios and identified safety hazards that affect train operations;

(iii) Provide training, consistent with § 236.1047(a), for safe train operations under manual control; and

(iv) Consistent with § 236.1047(a), ensure maintenance of manual train operating skills by requiring manual starting and stopping of the train for an appropriate number of trips and by one or more of the following methods:

(A) Manual operation of a train for a 4-hour work period;

(B) Simulated manual operation of a train for a minimum of 4 hours in a Type I simulator as required; or

(C) Other means as determined following consultation between the railroad and designated representatives of the affected employees and approved by FRA. The PTCDP and PTCSP shall designate the appropriate frequency when manual operation, starting, and stopping must be conducted, and the appropriate frequency of simulated manual operation.

(d) *Conductor training.* Training required under this subpart for a conductor, together with required records,

shall be integrated into the program of training required under this chapter.

#### § 236.1049 Training specific to roadway workers.

(a) *Roadway worker training.* Training required under this subpart for a roadway worker shall be integrated into the program of instruction required under part 214, subpart C of this chapter (“Roadway Worker Protection”), consistent with task analysis requirements of § 236.1043. This training shall provide instruction for roadway workers who provide protection for themselves or roadway work groups.

(b) *Training subject areas.* (1) Instruction for roadway workers shall ensure an understanding of the role of processor-based signal and train control equipment in establishing protection for roadway workers and their equipment.

(2) Instruction for all roadway workers working in territories where PTC is required under this subpart shall ensure recognition of processor-based signal and train control equipment on the wayside and an understanding of how to avoid interference with its proper functioning.

(3) Instructions concerning the recognition of system failures and the provision of alternative methods of on-track safety in case the train control system fails, including periodic practical exercises or simulations and operational testing under part 217 of this chapter to ensure the continued capability of roadway workers to be free from the danger of being struck by a moving train or other on-track equipment.

#### APPENDIX A TO PART 236—CIVIL PENALTIES<sup>1</sup>

Section	Violation	Willful violation
<b>Subpart A—Rules and Instructions—All Systems</b>		
<i>General:</i>		
236.0 Applicability, minimum requirements .....	\$2,500	\$5,000
236.1 Plans, where kept .....	1,000	2,000
236.2 Grounds .....	1,000	2,000
236.3 Locking of signal apparatus housings:		
(a) Power interlocking machine cabinet not secured against unauthorized entry .....	2,500	5,000
(b) other violations .....	1,000	2,000
236.4 Interference with normal functioning of device .....	5,000	7,500
236.5 Design of control circuits on closed circuit principle .....	1,000	2,000
236.6 Hand-operated switch equipped with switch circuit controller .....	1,000	2,000
236.7 Circuit controller operated by switch-and-lock movement .....	1,000	2,000